

Receiver Protector 5V

ORDA Systems Engineering

Summary: We will use the Interface Panel to supply +5VDC for the 2A3 Receiver Protector

The Receiver Protector needs 120VAC and +5VDC input. In the legacy design, power for the Receiver Protector comes from the receiver. We are concerned here with the +5V (see Figure 1 for legacy wiring).

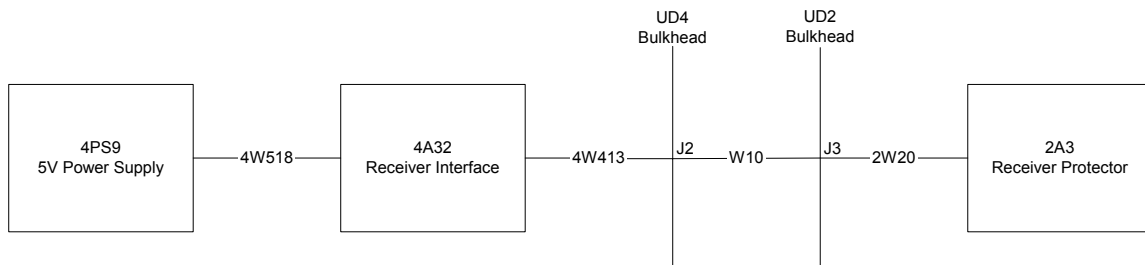


Figure 1, Legacy

In ORDA, we no longer use the 4A32. Originally, we were routing the 4W518 cable to the Interface Panel and using its 5V to drive the Receiver Protector (see Figure 2). However, SIGMET advised us they have +5V available on the Interface Panel, and it can drive up to 1A. The specification for the Receiver Protector calls for 800mA, so the panel has sufficient power to drive the Receiver Protector (see Figure 3). However, we needed to test it.

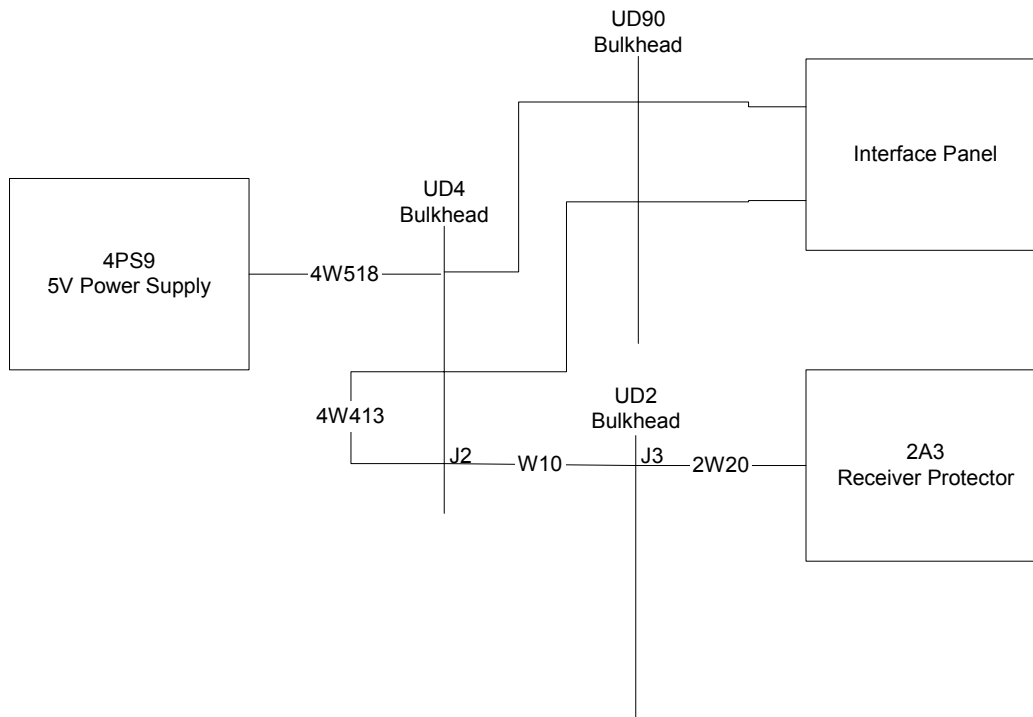


Figure 2, ORDA using 4PS9

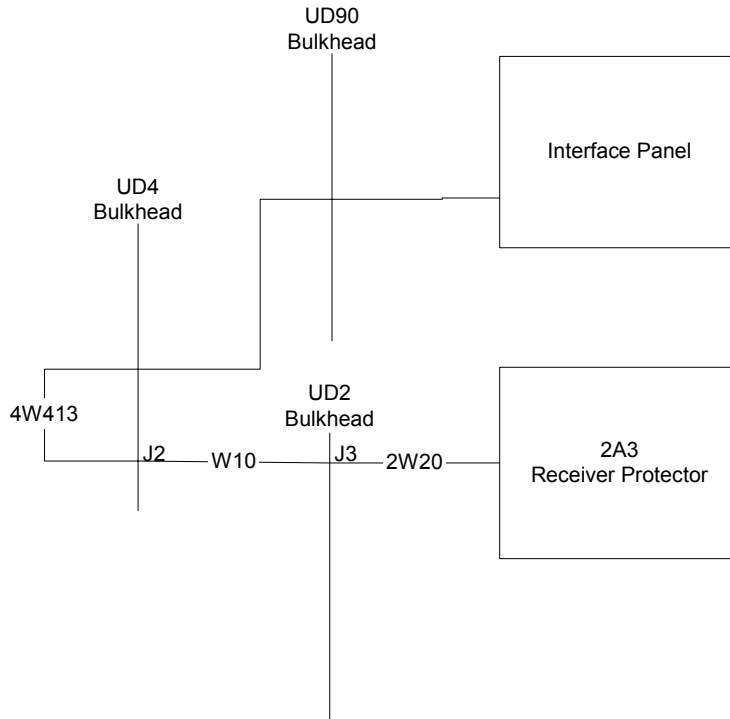


Figure 3, ORDA using Interface Panel +5V

We saw no apparent problems while driving the Receiver Protector with both sources at either test bed used, KREX and KJIM. The sites are significantly different for driving the Receiver Protector.

At KREX, the Receiver Protector is located in the RDA Shelter, so the wiring to it is extremely short, on the order of 10 foot for W10/2W20.

At KJIM, the run is exceptionally long, longer than any operational system due to the switching with KCRI. W10 is approximately 200 foot (100ft tower + 30ft to KCRI + 50ft to KJIM + 20ft inside KJIM).

We measured the voltages at KJIM for legacy and ORDA using the Interface Panel, with the following results:

	Source	At switch panel	2A3J1Pins 4-2
Legacy	5.02	4.84	3.63
ORDA	5.00	4.91	4.51

It's obvious the voltage for ORDA is fine. We did not investigate the anomalous appearing voltage using legacy at the Receiver Protector.

Our conclusion is that the Interface Panel can safely supply the +5V needed to run the Receiver Protector.